VKBD4 Keyboard – Installation and User manual

User and programming manual for the VKBD4 3 Axis LCD control keyboard.

For use with Vista DVRs, Matrices, PTZ domes and remote control cameras.

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STANDARDS INFORMATION

CE:

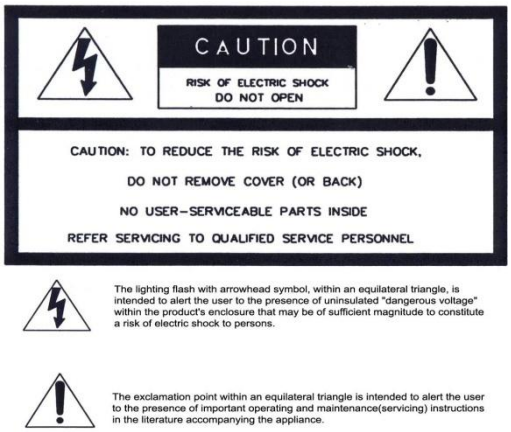
The product must be installed according to the currently valid installation regulations for EMC to guarantee the designed use and to prevent EMC problems.

The device supplied with this manual is in conformity with the following standard(s) or other normative document(s), and comply with the protection requirements of the EMC Directive (2004/108/EC), the Low Voltage Directive (2006/95/EC), and the RoHS Directive (2002/95/EC).

Standard used for showing compliance with the essential requirements of the device:
EN 55022
EN 61000-3-2
EN 61000-3-3
EN 50130-4
EN 55024
EN60950-1

ELECTRICAL SAFETY

Explanation of electrical safety symbols



SAFETY PRECAUTIONS

CAUTION BEFORE USE

Please read this manual before installing or using the Vista VKBD4 keyboard.

Please keep this manual in a safe place, to allow for future reference

INSTALLATION

Ensure installation position is level, secure and adequately ventilated.

Avoid installing close to sources of humidity or water.

UNPACKING

Please keep your packaging for future use, should your keyboard be stored or need to be returned.

Checklist: Always check that all the parts are included in the box:

1 VKBD4 Keyboard
1 Hard copy of the English manual
1 Hard copy quick start
1 Soft copy multi-lingual via CD
1 RJ45 lead, 2 metre
1 RJ45 Break out box

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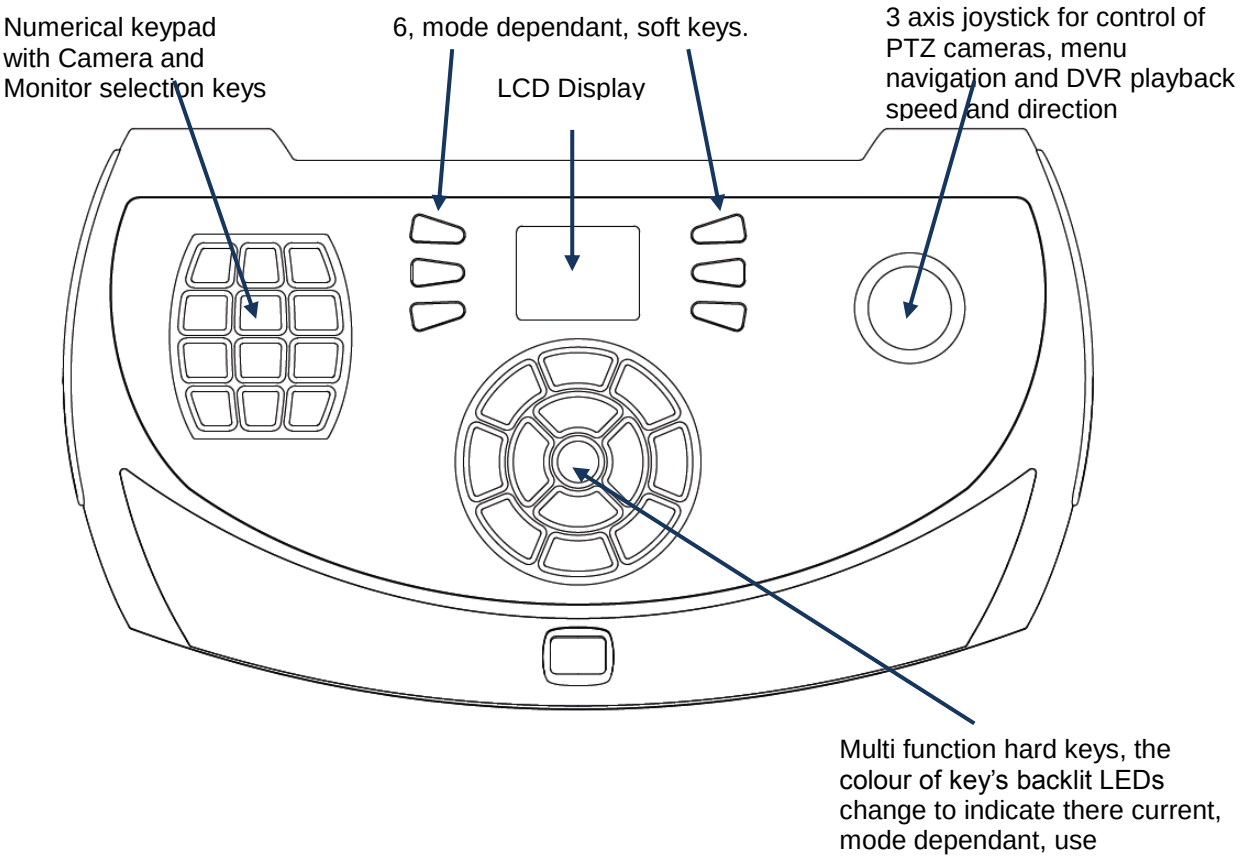
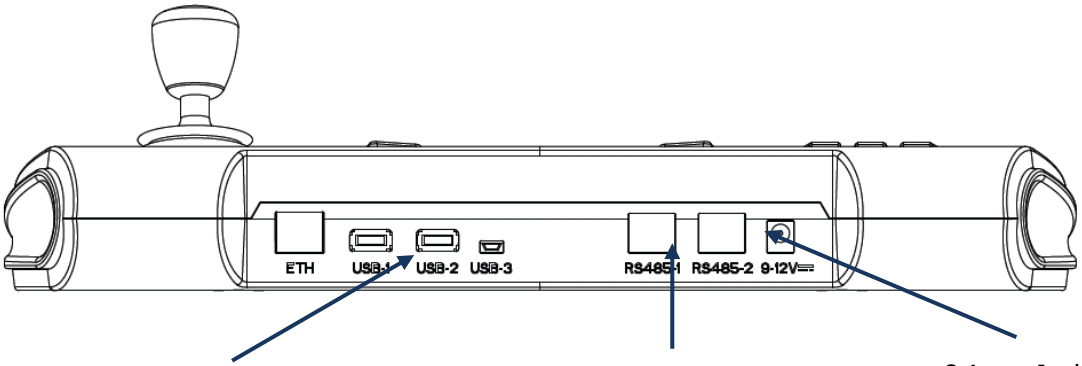
KEYBOARD LAYOUT

Key and Joystick layout



Note: When not in use, the keyboard will go into Power Save mode, the LEDs will "breath" slowly, first get dimmer then getting brighter, this is normal operation.

Rear connection lay out



The USB-3 port is used for firmware upgrades. The ETH, USB-2 and USB1 ports are for future development.

2x RS-485 ports for connection to DVRs, Matrices or direct to PTZ cameras

2.1mm Jack socket for Power, a separate PSU is required. The unit can also be powered via the RS485 ports (DVR dependant), only one power source should be used.

KEYBOARD OPERATION

Operation overview

The VKBD4 Keyboard has been designed to control Vista's DVR's, Matrices, PTZ Domes and Remote set up cameras. Due to this variety of devices the keyboard has several modes of operation. The keyboard modes are:

LIVE Mode (Blue LEDs)
For selection of live pictures and displays form DVRs and Matrices. This is the default mode when the keyboard is powered.

PLAYBACK Mode (Red LEDs)
For Reviewing or Archiving of data from a DVR.

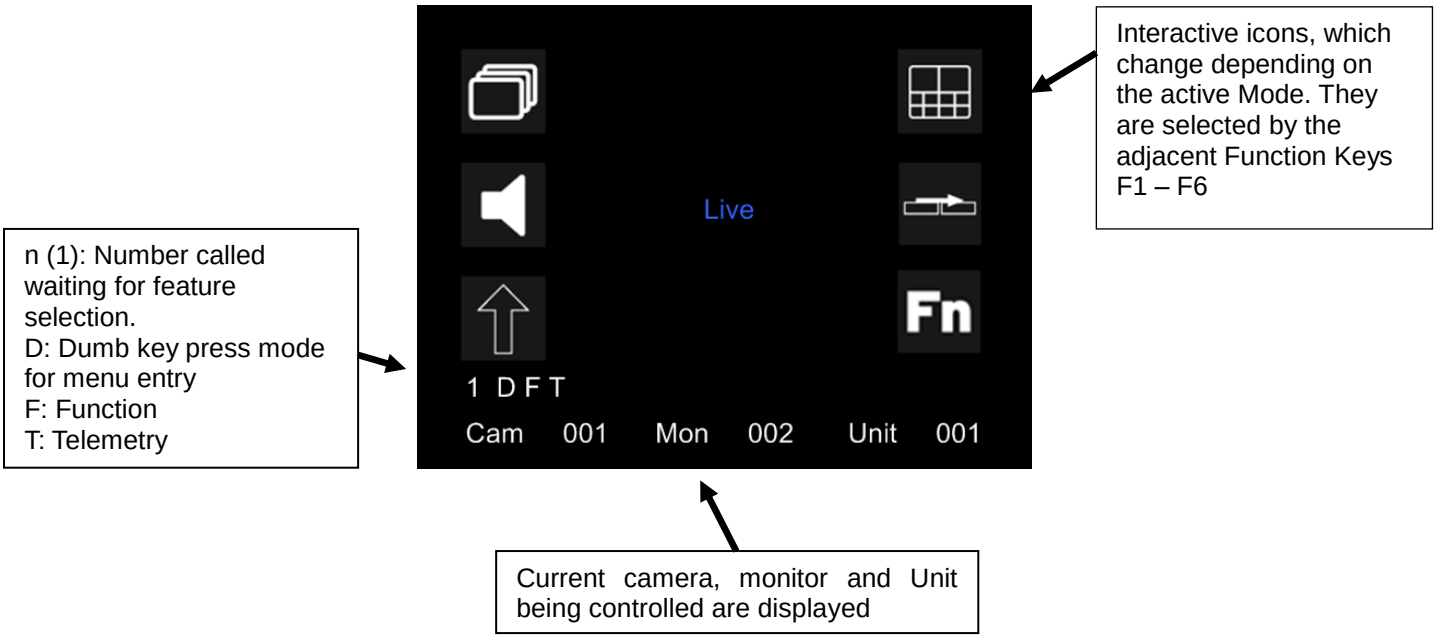
TELEMETRY Mode (Green LEDs)
Control of PTZ domes and set up of Remote set up cameras.

The LCD icons and the colour status of the backlit LEDs indicate the keyboard's mode and which keys are available for that mode.

Depending on its mode, the keyboard's hard and soft keys perform different functions. A soft key's function is displayed adjacent to the keys on the LCD display, while a hard key's function is shown by matching the back lit LEDs to the coloured icons printed on each key.

The keyboard supports hard keys from more than one mode as indicated by the different back lit LEDs, and keys that are always back lit blue are active in all modes.

Keyboard LCD display



Operation Modes

The Keyboard can control Vista DVRs, Matrices, PTZ domes and remote set up cameras.

Depending on the unit being controlled and the type of control required, the keyboard needs to switch between its three modes; Live, Playback and Telemetry For ease of use the keyboard is designed to show its current mode by:

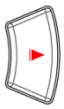
1. Changing the backlit colours of the Hard keys
2. Changinf the Soft Key icons on the LCD display
3. Displaying Either **Live**, **Play** or **Telem** in the centre of the LCD display.

There are various methods of selecting the three modes:

Mode key

Press the MODE toggles the keyboard between Live and Telemetry modes.

Joystick
From Live mode, any movement of the joystick selects the Telemetry mode.

Play Forward Key 
From Live or Telemetry modes the PLAY FORWARD key selects the Play mode.

Live Mode

When the keyboard is powered up it will automatically default to this mode.

To enter Live mode from the Telemetry mode press the MODE key.

To enter Live mode from the Playback mode press the LIVE soft key (F6).

Note 1: If the Keyboard is being used to control a Vista VM8 matrix refer to page 21.

Note 2: Not all the functions listed below are available on all products. Please refer to product manuals to confirm if a function is included.

Note 3: When powered the keyboard will try to connect to the DVR and camera that it was communicating with when it was powered down.

Operations available in Live mode:

Live Mode Hard Keys

Numeric keys – Used to enter a function's numeric parameter.

to

Monitor select – Enter the Monitor number followed by the MONITOR key

Camera Select – Enter the camera number followed by the CAMERA Key.

When a camera has been selected, and before another command is sent, the ENT/+ key will increment the camera selected and the ESC/- key will decrement the camera selected.

Alarm Clear – Press the ALARM key to cancel the active alarm

Freeze Frame – To freeze a live picture press the PAUSE key (Not available on all DVRs)

Emergency Record – To enter the DVR's Panic Record mode, press the PANIC key. (Not available on all DVRs). If the DVR has multiple Panic modes enter the camera number followed by the Panic key.

Enter Playback mode and play forward – Press the Play forward key. (On a Quantum Plus press once to Enter the Playback mode then a second time to play forward)).

Enter Playback mode and display the Search menu – Press the SEARCH key to enter playback then press it again to display search menus.

Enter Playback mode and display the Archive menu – Press the ARCHIVE key to enter playback then press it again to display the Archive menus

Enter Playback mode and display the Quick Archive menu – Press the Q ARC key to enter playback then press it again to display menus

The quick archive key launches the quick archive menu, identifies any archive media selects data to fill this media with the present play pointer at its centre. This is only available for units which support this function.

MODE – Change to Telemetry mode

Live Mode Soft Keys

More than one page of icons are available, on the first page the following options are available:

Monitor Sequence – Press the soft key, adjacent to the SEQUENCE icon (not available on all units).

Multi-screen View – Repeatedly press the soft key adjacent to the MULTI-SCREEN icon until the required view is achieved.

Audio Channel selection – Enter the audio channel number followed by the soft key adjacent to the AUDIO icon (not available on all DVRs).On the Quantum Plus repeatedly pressing this key steps through the available audio channels from channel 1 – 16.

Unit selection – Enter the unit number required followed by the soft key adjacent to the UNIT SELECT icon.

Function selection – Enter the Function number required follows by the soft key adjacent to the FUNCTION Icon. This key is used to control pre-programmed functions on certain units such as the Triplex series DVRs.

Shift to page 2 – Select the soft key adjacent to the SHIFT icon, this will display the additional operations available in Live mode.

The operations located on the second screen are used less often than those available on page 1.

IP camera selection – Select the camera number required followed by the soft key adjacent to the IP CAMERA icon (not available on all DVRs).

Digital Zoom – To enter Digital Zoom press the soft key, adjacent to the 2x ZOOM Icon (not available on all DVRs). Using the joystick to navigate around within the zoomed image takes the keyboard into telemetry mode, to exit 2x Zoom; press MODE, Shift then the 2x Zoom key.

Volume control – Use the soft keys adjacent to the VOLUME UP and VOLUME DOWN icons to control the volume of the previously selected audio channel (not available on all DVRs).

Unit Menu – Press the soft key adjacent to the MENU icon to enter the Menu of the controlled device. To exit Menus press either the Menu or Escape keys, exiting the menus is device dependant.

Return to Page 1 - Use the soft Key adjacent to the BACK arrow to return to page 1 of the Live mode soft key options.

Playback Mode

To enter the Playback mode of the Keyboard press the PLAY FORWARD Key. The Search, Archive and Quick Archive keys will also cause the keyboard to enter its Playback mode. To Enter the search menus press the key again.

The Icons for the Soft Keys will change as will the colours of the Hard keys, depending on the keyboard Mode. The Word **Play** will appear in the centre of the LCD display

Operations available in Playback mode (Red):

Playback Mode Active Hard Keys

Numeric keys – Used to enter a function's numeric parameter.

to

Camera Select – Enter the camera number followed by the CAMERA Key

When a camera has been selected, and before another command is sent, the ENT/+ key will increment the camera selected and the ESC/- key will decrement the camera selected.

Play Forward – Press the PLAY FORWARD key. The action taken on a repeat press is the same as that taken from the DVR's front key and therefore DVR dependant.

Play Backwards – Press the PLAY BACKWARDS key. The action taken on a repeat press is the same as that taken from the DVR's front key and therefore DVR dependant.

Pause – Press the PAUSE key. To step forward or backward is DVR dependant, use either the play forward and backwards keys or the fast forward and backwards keys.

To Exit pause mode is also dependant on the DVR, press either Pause again or The Play forward key.

Fast Forward – Press the FAST FORWARD key, repeatedly pressing the key will step through the available speeds.

Fast Rewind – Press the FAST REWIND key, repeatedly pressing the key will step through the available speeds.

DVR Search menu – To enter the Search menu press the SEARCH key. Please see the DVR manual for details

DVR Archive menu – To enter the Archive menu press the ARCHIVE key. This is not available on all DVRs as the Archive menu is sometimes a sub set of the Search menu. Please see the DVR manual for details.

Quick Archive menu – To enter the Quick Archive menu press the Q ARC key. This is not available on all DVRs Please see the DVR manual for details.

Emergency Record – To enter the DVR's Panic Record mode, press the PANIC key (not available on all DVRs). If the DVR has multiple Panic modes enter the camera number followed by the Panic key.

Alarm Clear – Press the ALARM key to cancel the active alarm

Joystick

In the playback mode the Joystick on the Keyboard is used to issue the following commands:

RIGHT - Play forward or Step forward if paused
LEFT - Reverse play or Step backwards if paused
UP - Fast forward
DOWN - Fast reverse

Playback Mode Soft Keys

More than one page of icons are available, on the first page the following options are available:

MENU key – Press the soft key adjacent to the MENU icon to exit various Playback menus. The action taken is the same as that taken from the DVR's front key and therefore DVR dependant, the ESC key and appropriate menu keys (Search, Archive, Q ARC) may also be active.

Multi-screen View – Repeatedly press the soft key adjacent to the MULTI-SCREEN icon until the required view is achieved.

GOTO Menu – Press the soft key adjacent to the GOTO icon to enter the DVR's simple Time and Date playback menu (Not available on all DVRs)

REPLAY – Press the soft key adjacent to the REPLAY icon, the Replay command instructs the DVR to move the current playback pointer back by the Replay Time, as set in the DVR's menu. (not available on all DVRs).

LIVE – Press the soft key adjacent to the LIVE icon to exit Playback mode and return to LIVE mode.

Shift to page 2 – Select the soft key adjacent to the SHIFT icon, this will display the additional operations available in Playback mode.

The operations located on the second screen are used less often than those available on page 1

IP camera selection – Select the camera number required followed by the soft key adjacent to the IP CAMERA icon (not available on all DVRs).

BLADE – To interrogate the recordings on a Blade DVR, press the key adjacent to the BLADE icon, this will alter the icons displayed on the LCD to ones specific to the Blade, and allows the keyboard to output commands in a format the Blade understands. See page 16 for **Blade Sub Menu**.

Audio Channel selection – Enter the audio channel number followed by the soft key adjacent to the AUDIO icon (not available on all DVRs).On the Quantum Plus repeatedly pressing this key steps through the available audio channels from channel 1 – 16.

Volume control – Use the soft keys adjacent to the VOLUME UP and VOLUME DOWN icons to control the volume of the previously selected audio channel (not available on all DVRs).

Return to Page 1 - Use the soft Key adjacent to the BACK arrow to return to page 1 of the Playback mode soft key options.

BOOKMARK – During playback, press the soft key adjacent to the BOOKMARK icon, this will tag the recording at point of viewing to allow this section to be found quickly in the future (Not available on all DVRs).

The Blade Sub Menu

IP – Selects playback form the IP cameras

MULTISCREEN - Selects the multi screen options

GOTO – Enter the DVR's simple Time and Date playback menu

REPLAY – Move the current playback pointer back by the Replay Time

BACK – Return the keyboard to standard Playback mode

LIVE – Return the keyboard to the LIVE mode and exit Blade mode

The Blade menu is identified by "Blade" written in the centre of the LCD

Note: For playback from MINI-D style DVRs please refer to page 20

Telemetry Mode

To Enter the Telemetry mode from the Live mode either:

1. Move the joystick to the left or right, or,
2. Press the MODE key (the MODE key will turn blue)

The Icons and colour for the Soft Keys will change as will the colour of the hard key's backlit LED.

There is no direct method to enter Telemetry mode from Playback mode, simply press LIVE (F6), then either move the joystick or press the MODE key.

Operations available in Telemetry mode:

Joystick

In Telemetry mode the Joystick on the Keyboard issues the following commands:

	P/T/Z	Menu Navigation
RIGHT	Pan right.	Move right or enter a sub-menu
LEFT	Pan left.	Move left or exit a sub-menu
UP	Tilt up.	Move up or increment a cell value
DOWN	Tilt up.	Move up or decrement a cell value
TWIST	Clockwise to Zoom in.	Increment a cell value
TWIST	Anti clock wise to Zoom out.	Decrement a cell value

Note: Navigation and data entry within menus depends on the operation of the device

Telemetry Mode Available Hard Keys

Numeric keys – Used to enter a function's numeric parameter.

to

Monitor select – Enter the Monitor number followed by the MONITOR key.

Camera Select – Enter the camera number followed by the CAMERA Key.

ENT/+ - This allows the operator sequentially step forward through Cameras, Presets, Learn Tours, and Preset Tours. Call the function immediately followed by the ENT/+ key)

ESC/- - This allows the operator to sequentially step backwards through Cameras, Presets, Learn Tours. Call the function immediately followed by the ENT/+ key)

FLIP – Spins a dome through 180^0 so that it is looking in the opposite direction.

AUX 1- 6 – Allows the operator to call auxiliary functions such as Wiper, Washer and Lamps, see the device manual for details.

ALARM – Clears the active alarm.

MODE – Return to LIVE mode

Emergency Record – To enter the DVR's Panic Record mode press the PANIC key (not available on all DVRs). If the DVR has multiple Panic modes enter the CAMERA NUMBER followed by the PANIC key.

Telemetry Mode Soft Keys

PRESET Call – A Preset is a memorised view of the Pan, Tilt and Zoom positions on controlled camera. To recall a previously saved Preset position enter THE PRESET NUMBER followed by the soft key adjacent to the PRESET icon.

PRESET Save - To save a Preset position press the soft key adjacent to the Fn icon, followed by the PRESET NUMBER and then by the PRESET key. It is possible to turn this turn this feature off in the keyboard's engineering menu.

then **NUMBER**, then

PRESET TOUR Call – A Preset Tour is a programmed sequence of Preset positions. To call a Preset tour select the number from the numerical keypad followed by the soft key adjacent to the PRESET TOUR Icon.

LEARN TOUR Call – A Learn Tour is a memorised path which the dome is programmed to follow, to call a Learn Tour; enter the LEARN NUMBER followed by the soft key adjacent to the LEARN TOUR Icon.

LEAR TOUR Save – To save a learn tour, press the soft key adjacent to the Fn icon followed by the LEARN NUMBER and the by the LEARN key. It is possible to turn this turn this feature off in the keyboard's engineering menu.

. then **NUMBER**, then

DAY/NIGHT Switching – Some PTZ domes have the ability to be manually switched from Day to Night mode, to toggle between these modes press the soft key adjacent to the DAY/NIGHT icon.

Shift to page 2 – Select the soft key adjacent to the SHIFT icon, this will display the additional operations available in Telemetry mode.

The operations located on the second screen are used less often than those available on page 1.

IRIS OPEN – This allows the auto-iris feature to be manually overridden. To increase the amount of light received by the camera press and hold the soft key adjacent to the IRIS OPEN icon till desired picture exposure is achieved. Most domes are set so that any control of Pan and Tilt will reactivate the auto iris mode.

IRIS CLOSE – This allows the auto-iris feature to be manually overridden. To decrease the amount of light received by the camera, press and hold the soft key adjacent to the IRIS CLOSE icon till desired picture exposure is achieved. Most domes are set so that any control of Pan and Tilt will reactivate the auto iris mode.

FOCUS NEAR – This allows the auto-focus feature to be manually overridden. Press and hold the soft key adjacent to the FOCUS NEAR icon till desired picture is achieved. Most domes are set so that any control of Pan and Tilt will reactivate the auto focus mode.

FOCUS FAR – This allows auto-focus feature to be manually overridden. Press and hold the soft key adjacent to the FOCUS NEAR icon till desired picture is achieved. Most domes are set so that any control of Pan and Tilt will reactivate the auto focus mode.

AUTO IRIS/FOCUS Enable – If Iris Open/Close or Focus Near/Far commands has been sent, the dome can be returned to Auto mode, by either moving the joystick or, if you do not wish to change the current view, by pressing the soft key adjacent to the AI/AF icon.

Return to Page 1 - Use the soft Key adjacent to the BACK arrow, to return to page 1 of the Telemetry mode soft key options.

The MINI-D Sub Menu

MINI-D - To ease control of the MIN-D DVR built into some cameras there is a special MINI-D Telemetry Control Mode; while in Telemetry mode press and hold the soft key adjacent to the Fn icon (F6), for 4 seconds. This will displayed a menu on the LCD display specific to the MINI-D, and allows the keyboard to output commands in a format the MINI-D understands. The MINI-D menu is identified by “MINI-D” written in the centre of the LCD.

RECORD – Start the MINI-D recording

LIVE/PLAY – Toggle the MINI-D between Live and Playback modes

MENU – Enter the MINI-D menus

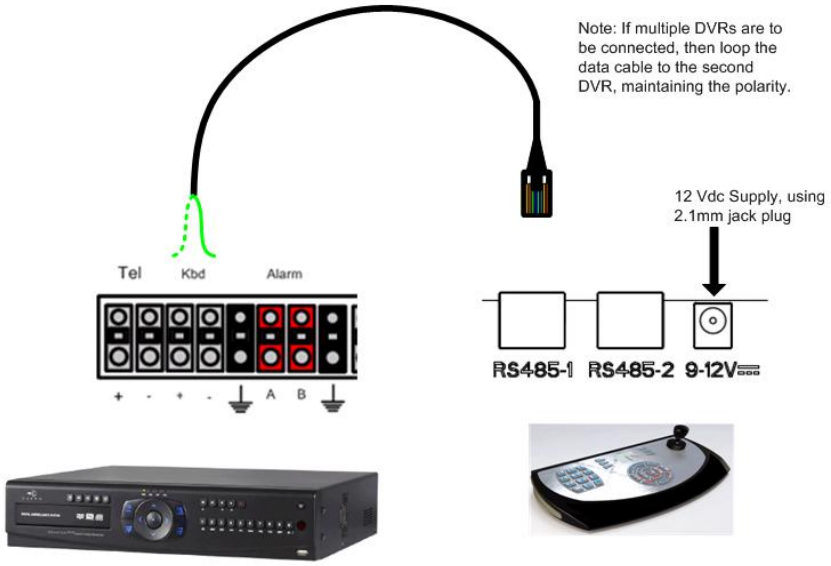
MUTE – Turn off the MINI-D audio channel

BACK – Return to standard Playback mode

EXIT – Return the keyboard to LIVE mode

SYSTEM CONNECTION DIAGRAMS

Connection to Quantum Plus DVR



The keyboard will require a separate 12Vdc power supply (Such as a VPSU500/12), with a 2.1mm jack plug. This is connected to the 9-12Vdc socket on the rear panel of the keyboard.

To connect a single keyboard to the Quantum Plus DVR, connect either of the RS485 ports on the rear of the VKDB4 keyboard to the “Kbd +/-” connections on the rear of the Quantum Plus.

Pin configurations:

Keyboard RS485		DVR Kbd
Pin 3 (Green/White)	-	Plus (+)
Pin 6 (Green)	-	Minus (-)

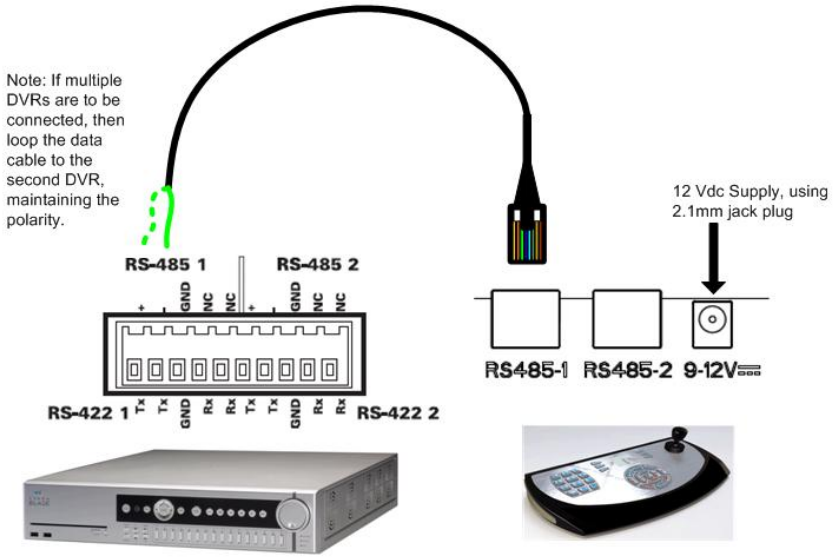
Note 1: this assumes a standard RJ45 lead is used with one end with bare cables.
The keyboard is supplied with a RJ45 lead and a Break out box, this can be used if distances exceed that of the RJ45 lead.

Note 2: Multiple Keyboards can be connected by looping through from one unit till the next, maintaining the polarity throughout. Ensure that the keyboard addresses are set. (See engineering set up page 26).

Note 3: Multiple Quantum Plus DVRs can be connected to a single keyboard by looping from one unit to the next, maintaining polarity throughout. Ensure unit addresses are set (see the Quantum Plus manual for detail).

Note 4: The second RS485 socket can be used to connect directly to a PTZ dome or remote set-up camera, the Protocol can be selected between Vista RS485, BBV RS485 and Pelco P

Connection to Blade DVR



The keyboard will require a separate 12Vdc power supply (Such as a VPSU500/12), with a 2.1mm jack plug. This is connected to the 9-12Vdc socket on the rear panel of the keyboard.

To connect a single keyboard to the Blade DVR, connect either of the RS485 ports on the rear of the VKDB4 keyboard to the “RS485 [1]” connections on the rear of the Blade DVR, this port will need setting to use “BaxNet” protocol.

Pin configurations:

Keyboard RS485		DVR Key Pad
Pin 3 (Green/White)	-	Plus (TX+)
Pin 6 (Green)	-	Minus (TX-)

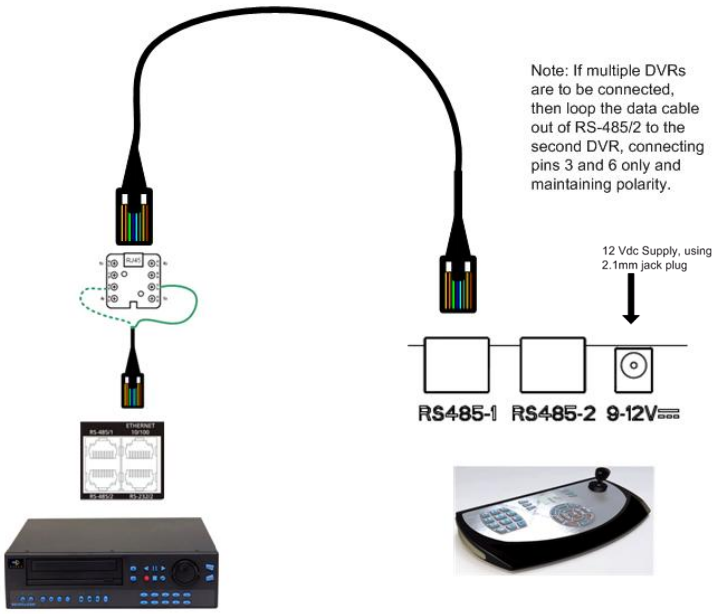
Note 1: This assumes a standard RJ45 lead is used with one end with bare cables.
The keyboard is supplied with a RJ45 lead and a Break out box, this can be used if distances exceed that of the RJ45 lead.

Note 2: Multiple Keyboards can be connected by looping through pins 3 and 6 from one unit till the next, maintaining the polarity throughout. Ensure that the keyboard addresses are set. (See engineering set up page 26)

Note 3: Multiple Blade DVRs can be connected to a single keyboard via looping from one unit to the next, maintaining polarity throughout. Ensure unit addresses are set (see the Blade manual for detail).

Note 4: The second RS485 socket can be used to connect directly to a PTZ dome or remote set-up camera, the Protocol can be selected between Vista RS485, BBV RS485 and Pelco P

Connection to Triplex DVR



The keyboard will require a separate 12Vdc power supply (Such as a VPSU500/12), with a 2.1mm jack plug. This is connected to the 9-12Vdc socket on the rear panel of the keyboard.

To connect a single VKBD4 Keyboard to Triplex, use the RJ45 lead supplied with the keyboard to connect to the supplied RJ45 break out box, then connect pins 3 and 6 to either RS485 Port on the Triplex .

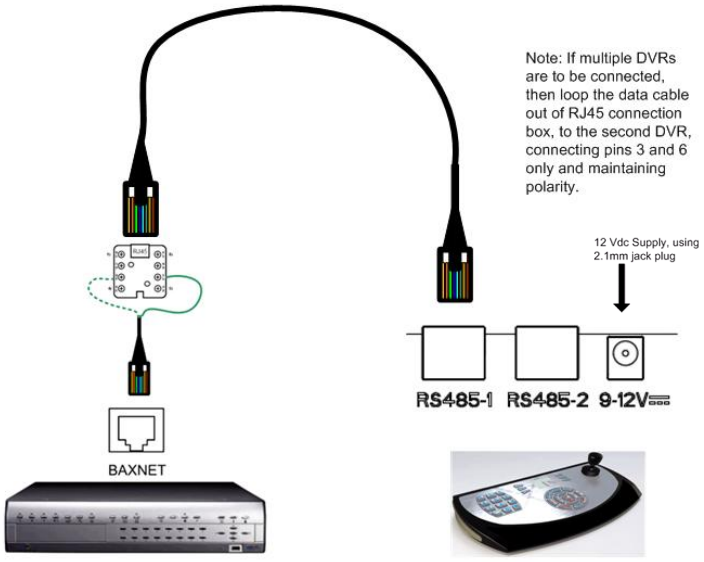
Note 1: Multiple keyboards can be connected together, by looping through pins 3 and 6 (no other pins) from RS485/2 on the first keyboard to 3 and 6 of RS485/1 on the second keyboard.

Ensure the Keyboard addresses are correctly set, (refer to Engineer set up section page 26)

Note 2: Multiple Triplex DVRs can be connected together by looping through pins 3 and 6 of RS485/2 on the first Triplex to RS485/1 on the second, follow this format for subsequent units. Ensure DVR addresses are correctly set. (Refer to the Triplex manual)

Note 3: The second RS485 socket can be used to connect directly to a PTZ dome or remote set-up camera, the Protocol can be selected between Vista RS485, BBV RS485 and Pelco P

Connection to Navigator DVR



The keyboard will require a separate 12Vdc power supply (Such as a VPSU500/12), with a 2.1mm jack plug. This is connected to the 9-12Vdc socket on the rear panel of the keyboard.

To connect a single VKBD4 Keyboard to the Navigator, use the RJ45 lead supplied along with the RJ45 break out box, connect pins 3 and 6 to the BAXNET port on the rear of the Navigator, as shown in the diagram above.

Note 1: Multiple keyboards can be connected together, by looping through, pins 3 and 6 (no other pins) from the second RS485 port on the rear of the keyboard.

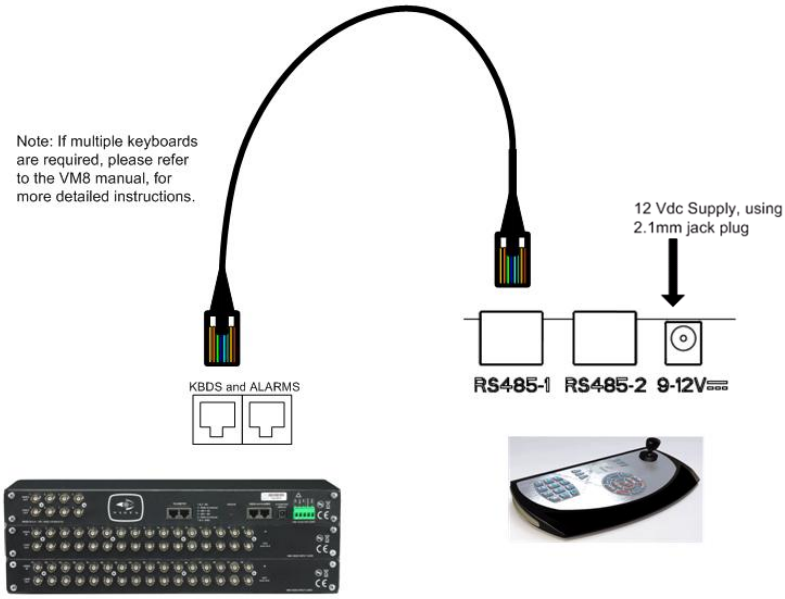
Ensure the Keyboard addresses are correctly set (see the Engineering Set section for details).

Note 2: Multiple Navigator DVRs can be connected together by looping through pins 3 and 6 on the RJ45 break out box to the second Navigator , follow this format for subsequent units. Ensure DVR addresses are correctly set. (Refer to the Navigator manual)

Connection to VM8 matrix

If using a VM8 matrix the keyboard needs to be set to output RS422, VM8 protocol, this is achieved through the Engineer Setup menus, (See page 30). Plus the first keyboard must be set to address 1.

Note: The keyboard can control either the VM8 matrix or a DVR, but not both at the same time.



The keyboard will require a separate 12Vdc power supply (Such as a VPSU500/12), with a 2.1mm jack plug. This is connected to the 9-12Vdc socket on the rear panel of the keyboard.

The BLUE dongles supplied with the VM8 matrix are only required if using the older style VKBD3im keyboard, the blue dongles are not necessary if using the VKBD4

To connect a single VKBD4 keyboard to the VM8 Matrix. Make sure the keyboard is in RS422 mode (See the Engineer sett up section), connect one end of the supplied RJ45 cable to either of the RS485 ports on the keyboard and connect the other end to the one of the ports marked KBDS and ALARMS on the Matrix.

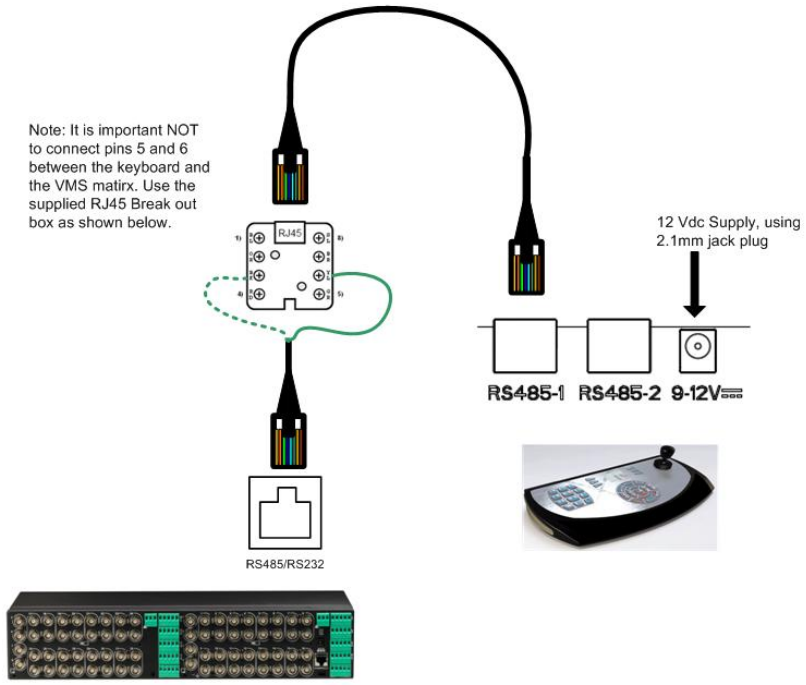
Important: the First keyboard must be addressed as unit 1

Note 1: If multiple keyboards are to be connected to the VM8 matrix, the second and subsequent keyboards need to be remotely powered, please refer to the Matrix manual for full details.

Note 2: Only one VM8 matrix can be installed a on a control network, never place a VM8 matrix on the same control network as DVRs.

Connection to VMS matrix

When connecting the VKBD4 keyboard to a VMS matrix only pins 3 (green/white) and 6 (green) between the matrix and the Keyboard. Use the RJ45 break out box supplied as shown below.



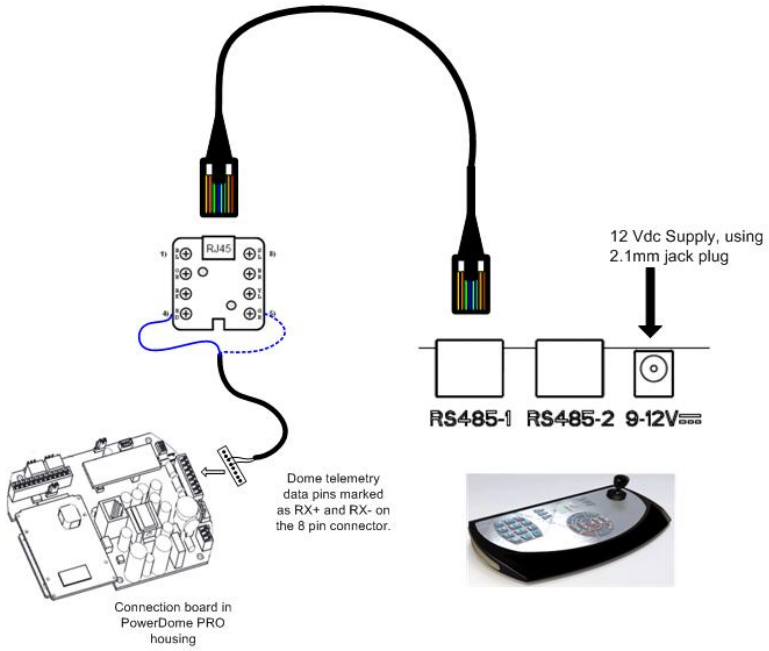
Note 1: Multiple keyboards can be connected together, by looping through, pins 3 and 6 (no other pins) from RS485/2 on the first keyboard to 3 and 6, to RS485/1 on the second keyboard.

Ensure the Keyboard addresses are correctly set (see the Engineer setup section for detail).

Note 2: The VMS matrix is controlled via Baxnet so the Keyboard needs to be set to 2 x RS485 (See the Engineer set-up mode page 30)

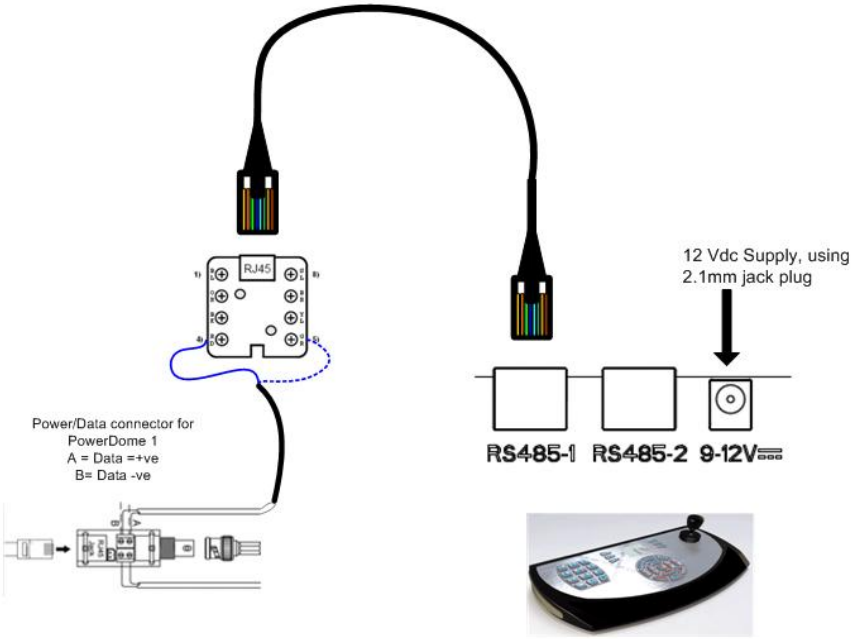
Connection direct to PowerDome PRO

The keyboard can be used to send Vista RS485 PowerDome protocol directly to the PowerDome PRO, This uses pins 4 (blue) and pin 5 (blue/white) of either of the RS485 ports on the rear. Use the RJ45 Breakout box for ease of connection as shown below.



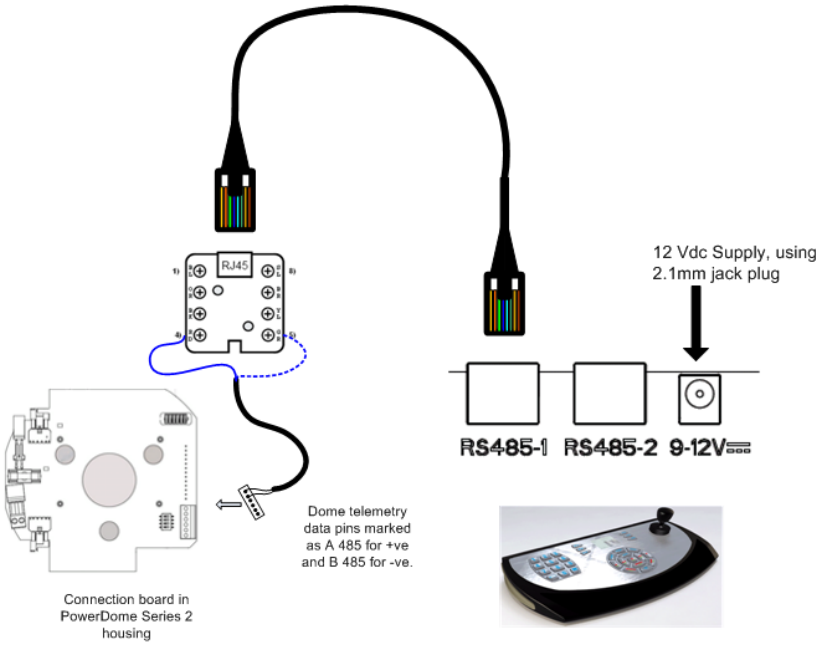
Connection direct to PowerDome series 1

The keyboard can be used to send Vista RS485 PowerDome protocol directly to the PowerDome1, This uses pins 4 (blue) and pin 5 (blue/white) of either of the RS485 ports on the rear. Use the RJ45 Breakout box for ease of connection as shown below.



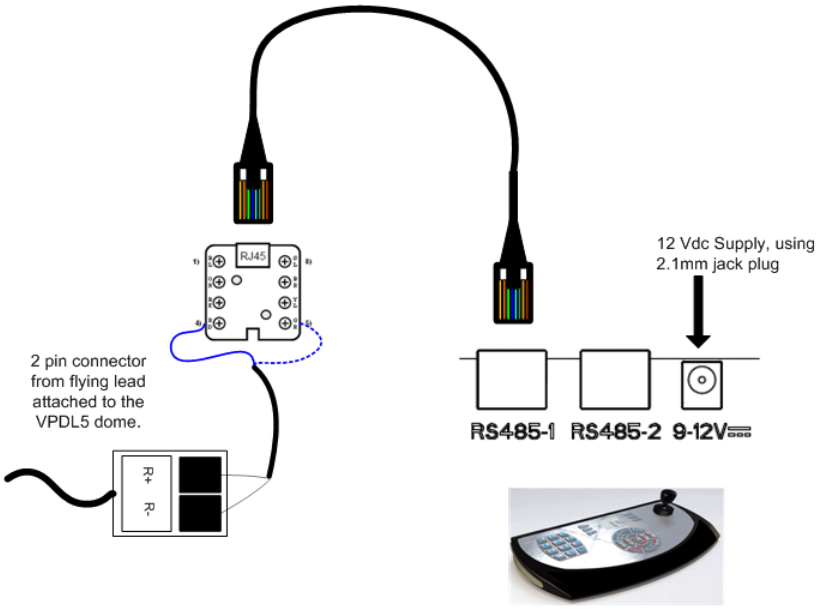
Connection direct to PowerDome series 2

The keyboard can be used to send Vista RS485 PowerDome protocol directly to the PowerDome2, This uses pins 4 (blue) and pin 5 (blue/white) of either of the RS485 ports on the rear. Use the RJ45 Breakout box for ease of connection as shown below.



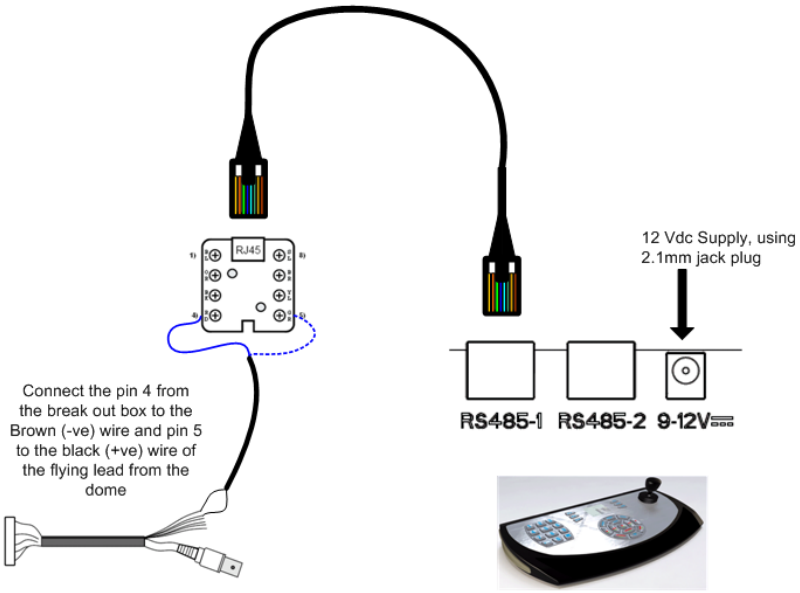
Connection direct to VPDL5 PowerDome Lite

The keyboard can be used to send Vista RS485 PowerDome protocol directly to the PowerDome2, This uses pins 4 (blue) and pin 5 (blue/white) of either of the RS485 ports on the rear. Use the RJ45 Breakout box for ease of connection as shown below.



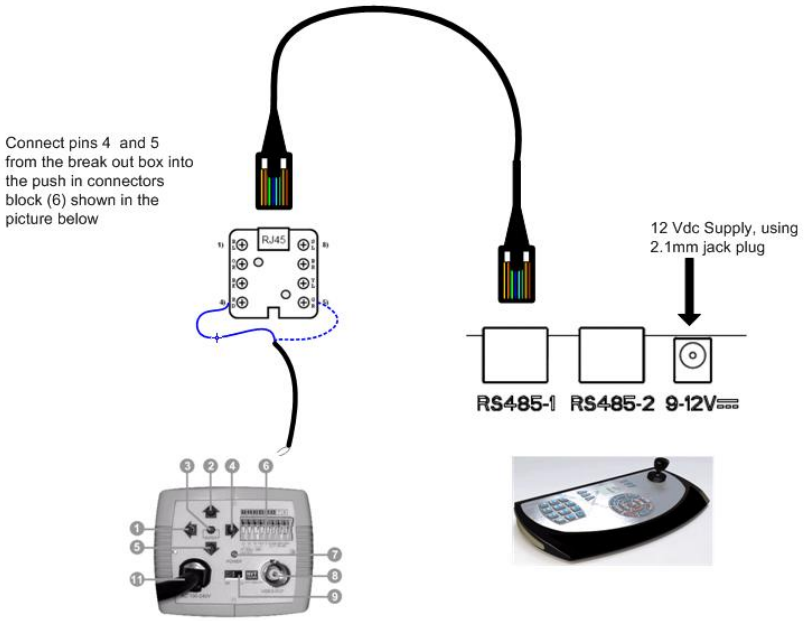
Connection direct to VPDL4 PowerDome Lite

The keyboard can be used to send Vista RS485 PowerDome protocol directly to the PowerDome2, This uses pins 4 (blue) and pin 5 (blue/white) of either of the RS485 ports on the rear. Use the RJ45 Breakout box for ease of connection as shown below.



Connection direct to Protos V remote setup cameras

The keyboard can be used to send Vista RS485 PowerDome protocol directly to the Protos V range of remote set-up cameras, This uses pins 4 (blue) and pin 5 (blue/white) of either of the RS485 ports on the rear. Use the RJ45 Breakout box for ease of connection as shown below.



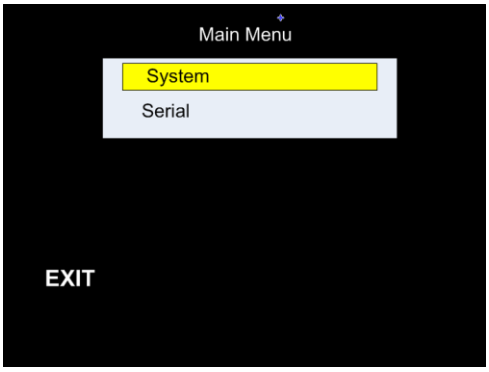
Engineer setup mode

The Engineer set up mode is used to configure the VKBD4 keyboard to ensure that it is set to communicate correctly with the devices it is connected to.

Accessing Engineer Setup mode

To Access the Engineer setup mode, the keyboard need to be in Live mode. Press and hold the MODE key for 4 seconds

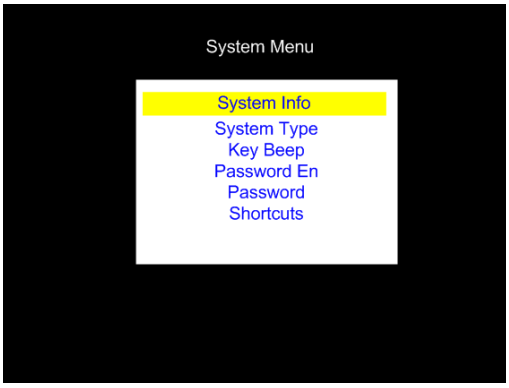
The LCD screen will display the following:



Use the Joystick to navigate around the menus. Up to move up, Down to Move Down, Right to Enter option and Left to exit option.

System Menu

From the main menu while the System menu option is highlighted in yellow, move the joystick to the right, the following display will appear:



System Info by moving the Joystick to the right, an information screen will appear, displaying:

1. Firmware version
2. System Type (Either: 1 x RS422 (VM8) or 2 x RS485 (DVR mode))
3. Protocol a – Vita keyboard protocol
4. Buad rate a – Baud rate of the Baxnet connection
5. Protocol B – Vista RS485 or BBV RS485
6. Baud rate b – Baud rate of the Dome telemetry

Return to the System menu by moving the joystick to the left.

System Type, a new display will appear allowing the choice between **2xRS485** and **1xRS422** mode. Move the joystick up and down to select the required mode

> **2xRS485** is the default mode and is used when communicating with all devices apart from the VM8 matrix range. Pins 3 & 6 carry the Baxnet control protocol for control of central devices. Pins 4 & 5 carry a Dome control telemetry, Either Vista RS485, BBV RS485 or Pelco P.
>
> **1xRS422** is used when the keyboard is used to communicate with VM8 matrix range.

Key Beep, choose between **On** or **Off.** depending on whether the operators want the key to beep on each press.

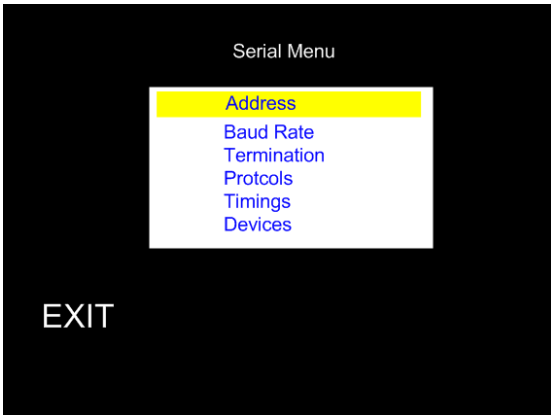
Password En, choose between **On** or **Off.** depending on whether the operator need to enter a password to use the keyboard.

Password, enter a 6 digit code via the numerical keys. This will protect the Engineer menus from being accessed accidentally

Shortcuts, choose between **On** or **Off.** If set to ON the operator has access to setting up Preset positions and Learn tours from the keyboard short cuts. If this is set to OFF the access to these shortcuts is denied.

Serial Menu

From the Main menu page select the Serial option, the following screen will appear:



Address – The is the RS485 network address of the keyboard, this should be different from other devices on the network.

Buad rate – The Baud rate for both the Baxnet output Pins 3 and 6, and the Vista PowerDome Protocol output pins 4 and 5 of the RJ45 socket, can be configured.

Termination – The termination and biasing of both RS485 types can be set. The biasing can be altered to compensate for very long cable runs.

Protocols – This allows the Dome Telemetry Protocol, sent out on pins 4 and 5 of the RJ45 sockets, to be set to Either: **Vista RS485**, **BBV RS485** or **Pelco P**

Timing – **Repeat count** – This is the number of time the keyboard will send the message if it Does not get a valid response, default 3.
Repeat Delay – This is the time period between resends
Telem Delay – If no telemetry commands are sent for this period, the Keyboard will return to Live mode, set between 0 and 50 seconds. Default is 0, so it will not time out.

Devices – The keyboard can be set to either **Advanced** or **Simple**.

If set to **Simple** the keyboard will only talk to one device at a time and the unit number for each device will have to be manually selected.

If set to **Advanced**, the keyboard will automatically send the Unit number along with the camera number when multiple units are being controlled.

E.g. If camera 19 is selected, the keyboard will send the command to Unit 2 camera 3.
If camera 37 is selected, the keyboard will send the command to Unit 3 camera 5

To exit the Engineer set-up mode at any point press EXIT (F3)

Useful Engineer Commands

Entering a DVR/Matrix set-up menus

In LIVE mode press the shift key (F3) to access the second page of icons, then press the MENU key (F6)

this will access the devices set-up menu.

Entering a Dome menu

In Telemetry mode **press and hold** the camera key ,

then press and release the Mode key

, while still holding down the camera key.

This will access the domes set-up menus.

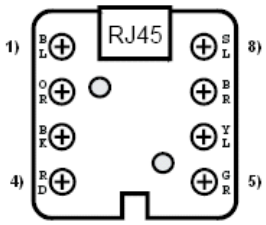
Appendices

Appendix 1 – Pin outs for Baxnet and PowerDome telemetry

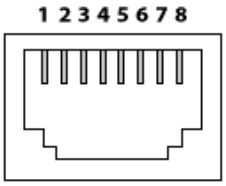
Pin Assignment

Pin	Assignment
1	Not connected
2	9~12VDC +ve
3	Baxnett +ve
4	VPD (RS485) -ve
5	VPD (RS485) +ve
6	Baxnet -ve
7	9~12VDC -ve
8	Not connected

Breakout Box Pins



RJ45 Socket Pins

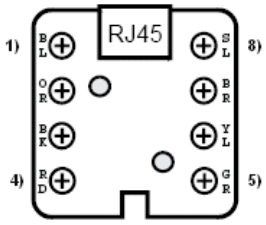


Appendix 2 – Pin outs when in RS422 mode for VM8 Matrix

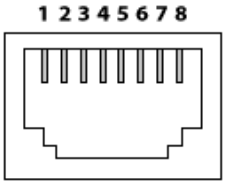
Pin Assignment

Pin	Assignment
1	Not connected
2	9~12VDC +ve
3	RxA To monitor card
4	TxB From monitor card
5	TxA From monitor card
6	RxB To monitor card
7	0V (Screen)
8	Not connected

Breakout Box Pins



RJ45 Socket Pins



Appendix 3 – Quick look up guide for keyboard keys and LCD icons

Part 1

	Camera Select Key, select the camera number followed by this key		**Sequence icon**, press key adjacent to icon to start a sequence
	Monitor select key, select the monitor number required followed by this key		**Split screen icon**, press key adjacent to icon to select multi-screen display
	Fast rewind key, Press this key while in Playback to fast rewind through recorded video		**Unit select icon**, select the unit number followed by key adjacent to icon
	Search key, Press this key to enter the search menus of a DVR		**Preset Position icon**, select the preset number followed by the key adjacent, to move dome to preset position
	Archive key, press this key to enter the Archive menus of a DVR		**Preset Tour icon**, select the tour number followed by the key adjacent to start a Preset Tour
	Quick Archive Key, press this key to enter the DVRs emergency Archive menus		**Learn Tour icon**, select the tour number followed by the key adjacent to start a Learn Tour
	Emergency record button, press this key to switch a DVR into its alarm record mode		**2X Digital Zoom icon**, press key adjacent to the icon to zoom within an image
	Alarm clear button, press this key to clear alarms		**GOTO icon**, press the key adjacent to enter quick search mode of a DVR
	Mode switch key, press this key to switch between Live and Telemetry mode		**Timed replay**, press the key adjacent to start playback from predetermined lapsed period
	Enter Key/+, used in menu setup and to step through camera inputs and preset positions		**Bookmark**, press the key adjacent to tag the recording, for easy future retrieval
	Escape/-, used in menu setup and to step down through camera inputs and presets positions		**Focus Far icon**, press the key adjacent to focus on objects further away

Add other icons: Fn , LIVE etc

Part 2

	Pause / Freeze frame key, Press this key to freeze live video or to pause replaying video		**Focus Near icon**, press the key adjacent to focus on objects closer to the camera
	Fast forward key, Press this key while in playback to fast forward through recorded video		**Auto Iris / Auto Focus icon**, press this icon to return a dome to Auto mode for Iris and Focus
	Play Forward key, press this key to enter Playback mode and to play forward		**Audio select icon**, select channel number followed by the key adjacent to icon to play back audio
	Play Backwards key, Press this key to rewind through recorded video		**Volume DOWN icon**, press the key adjacent to the icon to reduce the volume
	Device menu icon, To access the menu of a DVR or matrix, press the key adjacent to this icon (Not dome Menus)		**Volume UP icon**, press key adjacent to icon to increase the volume
	Shift icon, Press the key adjacent to this icon to select next page of icons		**Colour/Mono icon**, press the key adjacent to toggle between colour and mono modes on PTZ domes
	Step Back icon, to return to previous page of icons, press the key adjacent to this icon		**IP camera selection**, select the camera number followed by the key adjacent to the icon
	Iris open icon, press the key adjacent to open the iris on a PTZ dome		**Mini-D control icon**, press the key adjacent to enter the Mini-D control icon page
	Iris close icon, press the key adjacent to lose the iris on a PTZ dome		**Blade control icon**, press the key adjacent to enter the Blade control icon page

Appendix 4 – Joystick calibration procedure

The joystick on your keyboard has been factory calibrated to ensure even control of the Pan, Tilt and Zoom features on any controllable cameras. If you need to re-calibrate the joystick please carry out the following procedure:

1. Down power the keyboard
2. Press and Hold the Archive key

while you re-power the keyboard. Keep holding down the Archive key till the Vista Eye appears on the LCD screen.

   The keys required for the calibration will be illuminated in RED the remainder will be Blue. Follow the following procedure:

3. With the joystick in its resting position press Pause key
, you will hear a beep.
4. Push the joystick fully LEFT and hold, press the playback key
, you will hear a bleep
5. Push the joystick fully RIGHT and hold, press the play forward key
, you will hear a bleep
6. Push the joystick fully UP and hold, press the Enter key

, you will hear a bleep
7. Push the joystick fully Down and hold, press the Escape key

, you will hear a bleep
8. Twist the joystick fully anti-clockwise and hold, press F3 key

, you will hear a bleep
9. Twist the joystick fully clockwise and hold, press F6 key

, you will hear a bleep
10. Press the Archive key

to finish calibration.

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NORBAIN SD LTD
210 Wharfedale Road
Winnersh Triangle
Wokingham
Berks
RG41 5TP
01189 125 000